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II. Issues Concerning Cited Prior Art

In the previous Amendment, Applicants raised issues with regard to the status of the Fairhurst article as prior art due to its publication date. The Office Action responded by arguing that although the reference does not predate the present application, it discusses an encoding scheme "Manchester Encoding" that has been in existence since the 1940's. The Office Action goes on to cite two new articles, namely the Forster article and Wikipedia document, which the Office Action argues shows the advantages of the Manchester Encoding scheme.

Applicants first note the same issue with the Forster article and Wikipedia document. The Forster article appears to have been published some time in 2000, but there is no exact date. The present invention claims priority to Provisional Application No. 60/254,136 filed December 8, 2000. For all that is known, the Forster reference may not have published until after the provisional application filing date. The Wikipedia document has no date on it at all.

Applicants respectfully submit that the Office Action misses the point of Applicants' argument with regard to these references. Applicants concede that Manchester Encoding has been around since the 1940s. However, Applicant does not concede that the advantages of using Manchester Encoding in a network environment to eliminate the need for local oscillators are known prior to the invention. The Office Action is using disclosure and commentary from these articles, which may not be prior art, to bolster the rejections. It not readily apparent, however, that these advantages were known prior to the present invention.

For example, the Office Action cites the Forster article, which lists an advantage of Manchester Encoding which is elimination of an added clock. However, there is no way to tell when this advantage was first realized. New advantages of old systems are sometimes not recognized until much later. In short, the Office Action's use of references that do not predate the patent application fails to establish whether the advantages cited in these references were known prior to the filing of the present invention. The Office Action is using the actual disclosure from these references for the rejection, as such, these references must be prior art to make such arguments. They have not been proved by the Examiner to be prior art.

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The Office Action argues that one should not attack individual references to refute an obviousness rejection, but should the references in combination. However, when some of the cited references are not prior art, such individual arguments to certain references should be permitted because of their contribution to the cited combination.

III. The Claims Are Patentable

A main focus of the claimed invention is to provide a network of sensors and actuators that are connected to a host computer, where cost and complexity are reduced. The claimed invention eliminates the need for a local oscillator at the network interface of each sensor or actuator, thereby reducing cost and possible errors. In particular, the claimed invention uses a scheme that can detect the bit rate used by the host computer to communicate with the sensors or actuators on the network. This is accomplished by analyzing the signal transmitted by the host computer signal. Once the bit rate used by the host computer has been detected, the network interface can communicate with the host computer at that bit rate.

In rejecting the claims, the Office Action cites U.S. Patent No. 6,013,108 to Karolys. Specifically, the Office Action alleges that the '108 Karolys patent discloses a similar network system to the claimed invention. The Office Action acknowledges that the '108 Karolys patent nowhere discloses operation in an asynchronous mode or detection of the bit rate by the network device interface. However, the Office Action argues that such mode of operation would have been obvious in light of an article by Gorry Fairhurst entitled "Manchester Encoding," U.S. Patent No. 4,449,119 to Hanna, an article by Roger Forster entitled "Manchester Encoding", and/or definition from Wikipedia.

Applicants respectfully disagree. Applicants respectfully submit that it is not obvious to eliminate the cost and errors associated with a network interface local oscillator by analyzing the bit rate at which data is communicated from the host computer and using the detected bit rate to respond.

To sustain a prima facie case of obviousness, the Examiner must provide evidence that one of ordinary skill would find the claimed invention obvious in light of the prior art.

Applicants respectfully submit that this prima facie case is not met. Specifically, the Office

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Action argues that it would be obvious to modify the system of the '108 Karolys patent by replacing the local oscillator associated with the network interface with a bit rate detector that can clock data by sensing the bit rate used by the host computer. Applicants believe that they have raised a valid point refuting the obviousness rejection. Specifically, Applicants argue that the inventors of the '108 Karolys system are ones skilled in the art. They are charged with the knowledge of the various references cited by the Office Action. However, they did not think of removing the clock and replacing it with a bit rate detector. Presumably, they would have wanted to do so to reduce cost and errors associated with the clock. The Office Action argues that the present invention would have been obvious to the hypothetical skilled person in the art, but the '108 Karolys patent actually refutes such an argument. If it was obvious, then why didn't the inventors of the '108 Karolys patent think to use such a system.

Applicants further argue that the Office Action may be using impermissible hindsight. In particular, the Office Action cites the following section of the present application when arguing the obviousness of the claimed invention:

It must be understood that for any device to receive asynchronous serial data, it must be able to acquire the timing of the data sequence from the serial data stream. Normally, the receiver of the serial asynchronous data must have a local oscillator to cause its receiver to operate, and recover the timing information from the serial data. Once the timing information has been extracted, the asynchronous receiver is able to receive serial data at certain rates, plus or minus a certain deviation from these rates, given this local oscillator frequency. Manchester encoding of serial data causes a transition from high to low or low to high in the center of every bit. This makes it easy to extract the necessary timing information from the serial data stream. Because it is so easy to extract the timing information from the Manchester encoded serial data stream, a relatively large deviation from the expected data rate, based on the local oscillator can be tolerated. This tolerance to relatively large deviations from the expected data rates allows each NDI receiver to use a low accuracy local oscillator to receive the Manchester encoded data.

See Application, page 42, lines 2-16. Applicants note that this excerpt is from the detailed description section of the application. This section describes a finding by Applicants. It is not a statement of what one skilled in the art would have known prior to the present application.

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Citation to this text by the Office Action indicates that the Office Action is using the present invention as a road map to obviousness, which is impermissible.

CONCLUSION

In view of the remarks presented above, it is respectfully submitted that all of the present claims of the application are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

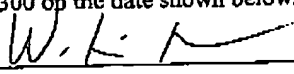


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